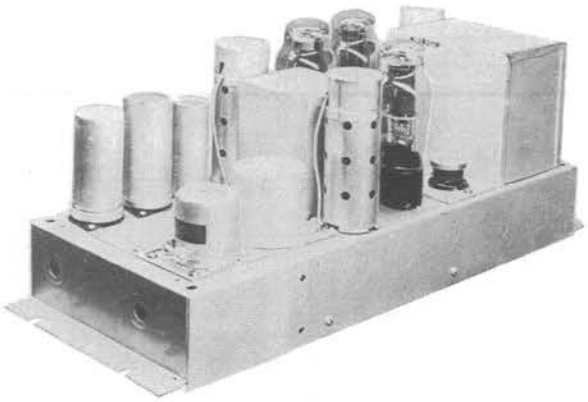
124E AMPLIFIER
(WESTERN ELECTRIC)



GENERAL

The 124E amplifier is a push-pull, two-stage amplifier with self-contained power supply unit and plate supply filter. It is designed for use where high input levels will not be encountered, where high gain is desired and where it is not essential that the impedance looking into the amplifier shall match the source impedance. There are three different input arrangements, the one chosen depending upon the type of service on which the amplifier will be employed and the maximum input levels which may be encountered.

ELECTRICAL CHARACTERISTICS

Gain - - - - - - - Input No. 1, 63 db (high gain input), 50 db (bridging input); input No. 2, 30 db; input No. 3, 43 db.

Source Impedance- Input No. 1, 0 to 1000 ohms (high gain input), 0 to 25,000 ohms (bridging input); input No. 2, 0 to 25,000 ohms; input No. 3, 0 to 1000 ohms.

Internal Input Impedance - Input No. 1, 1000 ohms (high gain input), 40,000 ohms (bridging input); input No. 2, 40,000 ohms; input No. 3, 600 ohms.

Internal Output Impedance - 3/4 of nominal load impedance.

Load Impedance - 1.75, 7.5, 16, 30, 150 or 600 ohms. Also 70-volt loudspeaker distribution line. See output connections table on schematic.

Output Level - - +41 dbm (12 watts) with less than 5% total harmonic distortion from 50 to 5000 cycles, at +43 dbm (20 watts) with 5% total harmonic distortion and 400 cycles with 600-ohm load.

Output Noise - - -37 dbm (unweighted).

Frequency Response - - - ±1 db, 50 to 15,000 cycles.

Gain Control - - 38 db in 2 db steps.

Power Supply - - 105 to 125 volts, 50 to 60 cycles, 1.1 amperes, 105 watts when used with 12-watt output connection. 105 to 125 volts, 50 to 60 cycles, 1.25 amperes, 125 watts when used with 20-watt output connection.

EQUIPMENT CHARACTERISTICS

Dimensions - - 19" long, 7" high, 7-3/8" deep including controls.

Weight - - - - Approximately 20 pounds.

Finish - - - - Chassis: Aluminum lacquer. Front and edge of mat: black enamel, dark aluminum gray, gray or blue gray.

Mounting - - - Relay rack, shelf or apparatus cabinet.

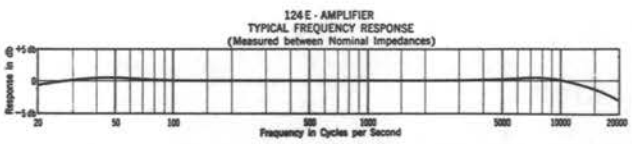
ELECTRON TUBES

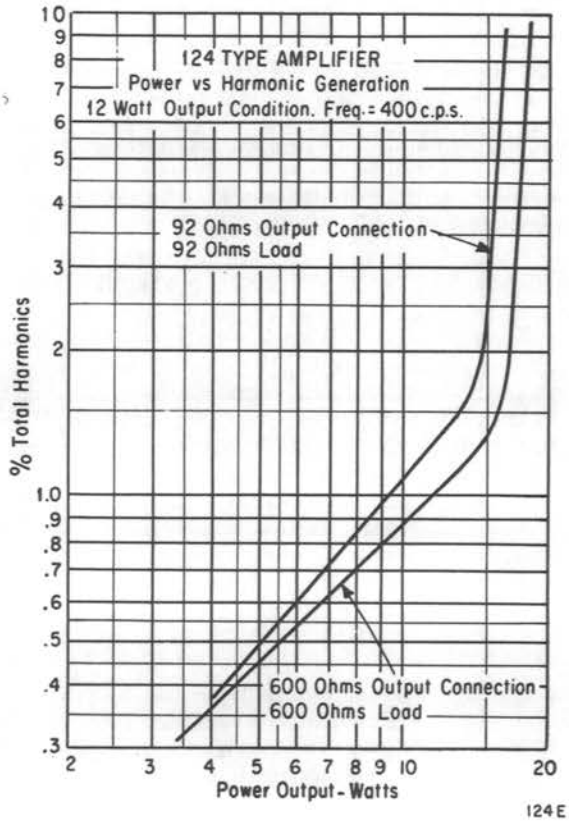
(These tubes are not supplied with the amplifier and must be ordered separately.)

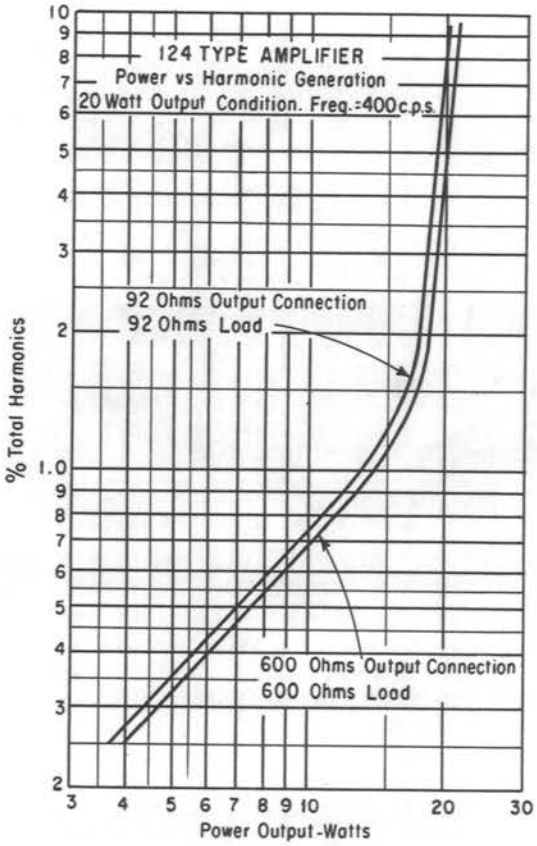
	W.E. Co.		Commercial
2 - - - - - - - - -	348A	or	6J7 or 6J7G
2 - - - - - - - - -	350B	or	6L6 or 6L6G
1 - - - - - - - - -	274B	or	5T4 or 5U4G

REFERENCES

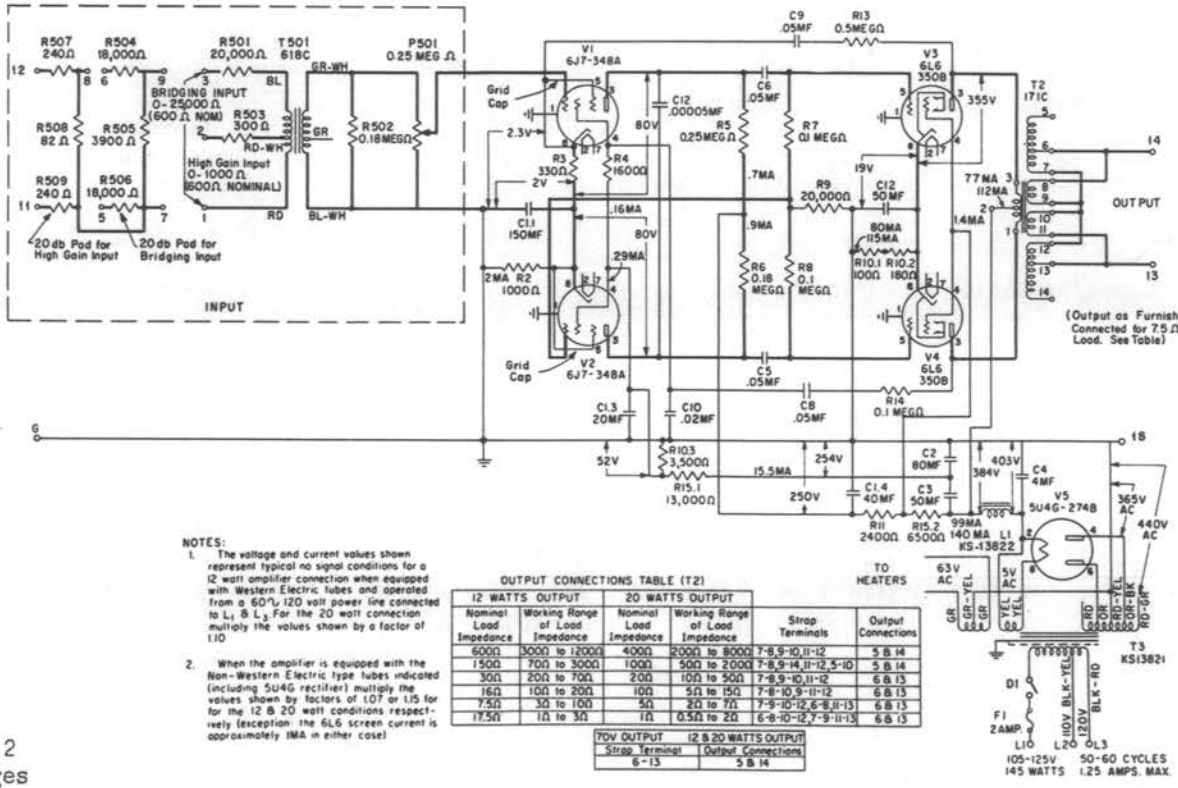
ESX-675954 - - - - -	Assembly and Stock List.
ESX-676196 - - - - -	Wiring Diagram.
ESXX-676195 - - - -	Schematic.
BSP 024-104-100 - -	124-Type Amplifier.
BSP 024-104-501 - -	103 and 124-Type Amplifiers.







124 E AMPLIFIER



NOTES:

1. The voltage and current values shown represent typical no signal conditions for a 12 watt amplifier connection when equipped with Western Electric tubes and operated from a 60 ~ 120 volt power line connected to L_1 & L_2. For the 20 watt connection multiply the values shown by a factor of 1.10

2. When the amplifier is equipped with the Non-Western Electric type tubes indicated (including 5U4G rectifier) multiply the values shown by factors of 1.07 or 1.15 for for the 12 & 20 watt conditions respectively (exception the 6L6 screen current is approximately 1MA in either case)

OUTPUT CONNECTIONS TABLE (T2)

12 WATTS OUTPUT		20 WATTS OUTPUT			
Nominal Load Impedance	Working Range of Load Impedance	Nominal Load Impedance	Working Range of Load Impedance	Strap Terminals	Output Connections
600Ω	300Ω to 1200Ω	400Ω	200Ω to 800Ω	7-8,9-10,11-12	5 & 14
150Ω	70Ω to 300Ω	100Ω	50Ω to 200Ω	7-8,9-14,11-12,5-10	5 & 14
30Ω	20Ω to 70Ω	20Ω	10Ω to 50Ω	7-8,9-10,11-12	6 & 13
16Ω	10Ω to 20Ω	10Ω	5Ω to 15Ω	7-8-10,9-11-12	6 & 13
7.5Ω	3Ω to 10Ω	5Ω	2Ω to 7Ω	7-9-10-12,6-8,11-13	6 & 13
17.5Ω	1Ω to 3Ω	1Ω	0.5Ω to 2Ω	6-8-10-12,7-9-11-13	6 & 13

70V OUTPUT	12 & 20 WATTS OUTPUT
Strap Terminal	Output Connections
6-13	5 & 14